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Sent: 5/16/2018 10:50:24 PM
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Subject: Westbay System and Navy's Plans for Future MWs
Attachments: FW: RTCs for RHMW11 Tech Memo

Lyndsey, Lene,

Thank you for the productive discussion yesterday regarding RHMW11's Westbay system as well as insights to improve the installation process and future plans for subsequent Westbay installations at the other proposed monitoring well locations.

In consideration of comments received on RHMW11's Westbay system thus far, the following general procedures will be utilized for future monitoring wells in which the Navy intends to proceed with installation of the Westbay system, contingent on permit concurrence from the Water Commission, land owner agreements, and any objections from the Regulatory Agencies:
- Westbay system monitoring wells will be installed in accordance with DLNR CWRM statewide guidance documents, as applicable;
- Westbay system monitoring wells will be installed in accordance with the Navy's Monitoring Well Installation Work Plan Addendum 02;
- Westbay system Manufacturer's Quality Control and Quality Assurance procedures;
- Boreholes will be photographed using a downhole video camera;
- Geophysical logging will include caliper logging and acoustic televiewer logging in as many vertical portions of the uncased portions of the borehole as possible contingent on borehole stability;
- Grouting of casing will continue to be conducted using the tremie method, and all volumes will be carefully monitored and compared with theoretical volumes:
- Packer locations between zones will be developed by the field team and the Westbay installation technician using the continuous core, geophysical logging, and video camera results;
- Dual packers may be used between discrete zones as determined necessary based on formation characteristics determined from core inspection, geophysical results, and video logging; and
- Packer isolation will be confirmed using packer inflation records, vertical pressure profiles, and data collected as part of LTM events and future synoptic groundwater elevation studies

As described in yesterday's discussion, the extensive testing conducted at RHMW11 was to demonstrate the suitability and viability of using the Westbay System in an open borehole within the Red Hill geologic environment. The Navy does not intend on and does not recommend conducting this type of extensive testing for future Westbay System installations given the success of the Westbay system at RHMW11. In light of this and if there are no objections from the Regulatory Agencies and the Water Commission, the Navy will proceed with the aforementioned approach for future monitoring wells.

Additionally, the Navy met with the Water Commission on March 22 to discuss the RHMW11 packer verification memorandum, solicit feedback/answer questions, and to propose amendments to the special conditions in the other monitoring well permits based on the results from the RHMW11 installation. The Navy discussed the results and what was learned from the drilling, Westbay installation, and geophysical logging at RHMW11; and proposed to move forward with [1] select geophysical methods (i.e. aforementioned approach) that provided usable, meaningful data, and [2] utilizing only a single transducer (vice a string of transducers) as the Navy believes collecting a nearly contemporaneous pressure profile in a well over the period of an hour with a single transducer is sufficient. The Navy is currently drafting a letter to the Water Commission respectfully requesting for these permit amendments.

The Navy disagrees BWS' conclusions and/or assertions regarding the viability of RHMW11's Westbay system, and believes effective packer isolation has been demonstrated based on sound, multiple lines of evidence and on data collected thus far at RHMW11. The Navy provided detailed technical responses to BWS' comments in the attached correspondence for the Regulatory Agencies' consideration. As discussed yesterday, the Navy is evaluating the planned monitoring well locations and the need for a Westbay system at those locations as a contingency plan should the Westbay system not be approved and due to the expedited timeline of the AOC. The Westbay system yields invaluable data, and though the Navy is re-evaluating planned monitoring well locations, the Navy hopes to continue its efforts in installing Westbay systems and collecting those data at other planned monitoring well locations for the betterment of the groundwater models.

V/R,
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